

## REMARKS/ARGUMENTS

The applicants have studied the office action mailed November 27, 2009, and have made the changes believed appropriate to place the application in condition for allowance.

Reconsideration and reexamination are respectfully requested.

Claims 1-5, 7-20, 22- 39 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens, ("TCP/IP Illustrated, Volume 1 "), in view of Aweya et al., (US Patent No. 7,047,312), (hereinafter Aweya) and further in view of Boyd et al., (US Publication No. 2004/0049580).

Claim 1, for example, is directed to a "method for sending data in a computer system, comprising: establishing a plurality of active direct memory access connections between the host and a plurality of destinations; establishing for each connection a Protocol Control Block, each Protocol Control Block having a first window field, a virtual window field and a message limit field, for the associated connection; receiving from each destination a first window value representing a first quantity of data packets for the connection associated with the destination, and storing the received first window value in a first window field of the Protocol Control Block associated with the connection; for each Protocol Control Block, storing the value of a second quantity of data packets in the virtual window field of the Protocol Control Block, wherein the second quantity of each connection is less than the first window field value of the connection and is based, at least in part, on the number of active connections of the host; sending packets of data from said host to each destination; receiving an acknowledgment from each destination for each packet of data received by each destination wherein the first window value of each connection represents a limit imposed on said host by the destination of the connection on the quantity of data packets sent from said host to the destination of the connection and lacking an acknowledgment of being received by the destination of the connection; and limiting the number of packets sent by said host to each connection, but not acknowledged as received by the destination of each connection, to the value of the virtual window field of the Protocol Control Block associated with the connection, wherein the value of the virtual window field of the Protocol Control Block associated with the connection is less than the value of the first window field of the Protocol Control Block associated with the connection; sending a plurality of messages to specified memory locations of the destinations of the direct memory access connections wherein each message comprises a plurality of data packets; receiving message acknowledgments, each message acknowledgment being sent by a destination for each message received by the destination; and for each connection, establishing a message limit and storing the value of the message limit in the message limit field of the Protocol Control Block associated

with the connection; and for each connection, limiting the number of messages sent by said host through the connection, but not acknowledged as received by the destination of the connection, to the value of the message limit field of the Protocol Control Block associated with the connection so that each message limit imposes a separate limit for each direct memory access connection on the quantity of messages sent from said host to the specified memory location of the direct memory access connection associated with the message limit and lacking a message acknowledgment of being received by the destination of the direct memory access connection associated with the message limit, each message limit providing a further limit on the associated connection in addition to the packet limit imposed by the value of the virtual window field of the Protocol Control Block associated with the connection.”

The Examiner concedes, for example, that:

Stevens does not specifically disclose ... establishing a plurality of active direct memory access connections between said host and a plurality of specified memory locations of a plurality of destinations; sending a plurality of messages to specified memory locations of the destinations of the direct memory access connections wherein each message comprises a plurality of data packets; receiving message acknowledgments, each message acknowledgment being sent by a destination for each message received by the destination; and establishing a plurality of message limits, each message limit imposing a separate limit for each direct memory access connection on the quantity of messages sent from said host to the specified memory location of the direct memory access connection associated with the message limit and lacking a message acknowledgment of being received by the destination of the direct memory access connection associated with the message limit.

Instead, it is the Examiner’s position that “Boyd further discloses ... establishing a plurality of message limits, each message limit imposing a separate limit for each direct memory access connection on the quantity of messages sent from said host to the specified memory location of the direct memory access connection associated with the message limit and lacking a message acknowledgment of being received by the destination of the direct memory access connection associated with the message limit” citing Boyd, paragraph 122. The applicants respectfully disagree.

It is believed that the Examiner’s citation to the Boyd reference refers to the discussion of a Maximum Remote Direct Memory Access (MRDMA) field 1120 which is described as the “maximum number of outstanding RDMA Read Requests from the remote socket.” It is believed that the term RDMA Read Requests in the context refers to packets, not messages.

Accordingly, it is believed that the cited Maximum Remote Direct Memory Access (MRDMA) field describes maximum number of outstanding read request packets, not messages, from the remote socket.

In response, it is the Examiner's position that:

Boyd discloses limiting the number of packets between devices [Boyd, paragraph 122], and in limiting the number of packets, Boyd is limiting the number of messages [Boyd, paragraphs 5, 9, 48 and 52, these paragraphs discuss that a message is broken up into packets to be sent, and reassembled as a message when received. As such, by limiting the number of packets, the number of messages is limited by the number of packets that can be accepted at that time].

The applicants respectfully disagree.

It appears to be the Examiner's position that a message limit is inherent in a packet limit.

However, if such an inherency is assumed to be true (a point not conceded), it is clear that claim 1 is directed to a *combination* of *different* and *separate* limitations, each stored in separate fields of a Protocol Control Block. A first limitation stored in a separate field of the associated Protocol Control Block, is directed explicitly to packets:

... limiting the number of packets sent by said host to each connection, but not acknowledged as received by the destination of each connection, to the value of the virtual window field of the Protocol Control Block associated with the connection, wherein the value of the virtual window field of the Protocol Control Block associated with the connection is less than the value of the first window field of the Protocol Control Block associated with the connection ...

A second, *separate* and *further* limitation stored in a separate field of the associated Protocol Control Block, is directed explicitly to messages:

... for each connection, establishing a message limit and storing the value of the message limit in the message limit field of the Protocol Control Block associated with the connection; and for each connection, limiting the number of messages sent by said host through the connection, but not acknowledged as received by the destination of the connection, to the value of the message limit field of the Protocol Control Block associated with the connection so that each message limit imposes a separate limit for each direct memory access connection on the quantity of messages sent from said host to the specified memory location of the direct memory access connection associated with the message limit and lacking a message acknowledgment of being received by the destination of the direct memory access connection associated with the message limit, each message limit providing a further limit on the associated connection in addition to

the packet limit imposed by the value of the virtual window field of the Protocol Control Block associated with the connection.

Thus, in a method in accordance with one embodiment, a message limitation may be set differently than and in addition to a packet limitation, for example. Thus various combinations of packet limitations and message limitations may be implemented depending upon conditions.

It is respectfully submitted that the Examiner's citations to a packet limitation feature of the Boyd reference provides no teaching or suggestion of message limitations *in addition to* and *in combination with a separate* packet limitation. The Examiner's citations to the Aweya reference are similarly deficient.

Accordingly, it is respectfully submitted that the Examiner's citations to the Stevens, Aweya and Boyd references, considered alone or in combination, have no teaching or suggestion of a *combination* which includes, for example, *both* "...limiting the number of packets sent by said host to each connection, but not acknowledged as received by the destination of each connection, to the value of the virtual window field of the Protocol Control Block associated with the connection ..." and "...limiting the number of messages sent by said host through the connection, but not acknowledged as received by the destination of the connection, to the value of the message limit field of the Protocol Control Block associated with the connection so that each message limit imposes a separate limit for each direct memory access connection on the quantity of messages sent from said host to the specified memory location of the direct memory access connection associated with the message limit and lacking a message acknowledgment of being received by the destination of the direct memory access connection associated with the message limit, each message limit providing a further limit on the associated connection in addition to the packet limit imposed by the value of the virtual window field of the Protocol Control Block associated with the connection" as required by claim 1.

Independent claims 15 and 26 may be distinguished in a similar fashion.

The rejection of the dependent claims is improper for the reasons given above. Moreover, the dependent claims include additional limitations, which in combination with the base and intervening claims from which they depend provide still further grounds of patentability over the cited art. It is therefore respectfully submitted that the rejection of the claims should be withdrawn.

The Examiner has made various comments concerning the anticipation or obviousness of certain features of the present inventions. Applicants respectfully disagree. Applicants have addressed those comments directly hereinabove or the Examiner's comments are deemed moot in view of the above response.

Conclusion

For all the above reasons, Applicant submits that the pending claims are patentable. Should any additional fees be required beyond those paid, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 553-7970 if the Examiner believes such contact would advance the prosecution of the case.

Dated: March 29, 2010

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